

LISTING OF CLAIMS

Claims 1-7. (Cancelled)

Claim 8. (Original) A method of forming a nitride layer using a plasma enhanced CVD comprising:

- loading a wafer onto a susceptor;
- supplying a first reactive gas containing nitrogen N₂ to a process chamber;
- leaving the wafer intact for a first delay time;
- forming a basic layer on the wafer by converting the first reactive gas into plasma which is created by applying electric power to the process chamber;
- leaving the wafer intact for a second delay time;
- forming a nitride layer on the wafer having the basic layer thereon by supplying a second reactive gas to the process chamber and converting the second reactive gas into plasma;
- leaving the wafer intact for a third delay time;
- stopping the supply of the first and second reactive gases to the process chamber;
- leaving the wafer intact for a fourth delay time;
- stopping applying the electric power; and
- unloading the wafer from the susceptor.

Claim 9. (Original) The method as claimed in claim 8, wherein loading and unloading the wafer are performed through a loadlock chamber connected to the process chamber.

Claim 10. (Original) The method as claimed in claim 8, wherein ammonia is used as the first reactive gas and silane is used as the second reactive gas.

Claim 11. (Original) The method as claimed in claim 8, wherein forming the nitride layer is performed in the process chamber having an internal temperature of 580-670°C, an internal pressure of 0.5-0.7 mTorr and an electric power applied thereto of 100-700 W.

Claim 12. (Original) The method as claimed in claim 8, further comprising forming a protective film on inner walls of the process chamber before loading the wafer, the protective film being formed of at least two layers each of which has a dielectric constant different from the others.

Claim 13. (Original) The method as claimed in claim 12, wherein forming the protective film includes forming an oxide layer on the inner walls of the process chamber and forming a nitride layer on the oxide layer.

Claim 14. (Original) The method as claimed in claim 13, wherein forming the oxide layer is performed by supplying nitrogen oxygen gas to the process chamber and converting the same in plasma.

Claim 15. (Original) The method as claimed in claim 13, wherein forming the nitride layer is performed by introducing ammonia gas and silane gas into the process chamber and converting the same gases into plasma.

Claim 16. (Original) The method as claimed in claim 8, further comprising vacuuming the process chamber to compulsorily exhaust a gas remaining in the process chamber and supplying a cleaning gas to the process chamber after unloading the wafer.

Claim 17. (Original) The method as claimed in claim 8, further comprising plasma etching cleaning to clean inner walls of the process chamber and components installed in the process chamber after unloading the wafer.

Claim 18. (Original) The method as claimed in claim 17, wherein the plasma etching cleaning is performed by supplying nitrogen trifluoride gas to the process chamber and converting the same gas into plasma.